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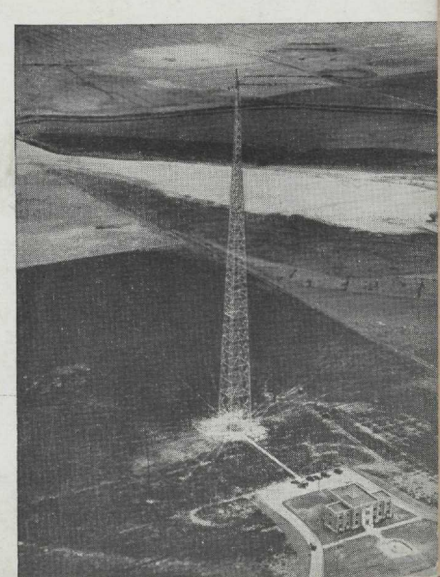
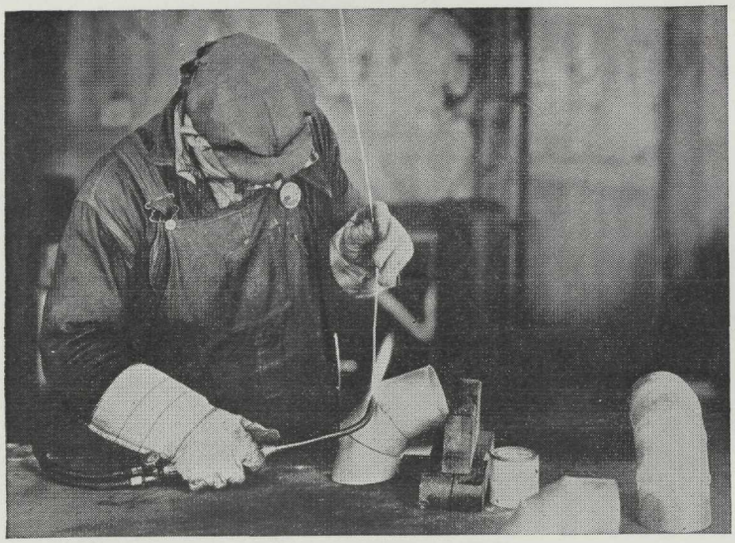
C. E. Sherman





FEATHERWEIGHT PIPING—made by welding aluminum tubing. These fittings are to be used in a chemical plant.

If Your Product Must Weigh Less

Oxy-Acetylene welding will eliminate heavy joints and give throughout—greater sturdiness with less weight and bulk.

By **F. J. KING***

The trend in modern product design has been toward lightening weight. Manufacturers wishing to make their metal products lighter are building them of light weight alloys and metals with welded joints. Products so fabricated utilize the superior features of welded joints to attain lightness with strength, ruggedness, and attractive appearance.

Welding Is Strong

Lightness is gained in welding because each joint is a smooth union of two metal parts into one. No lapping or flanging is needed for making the joint. Corners are not bulky or cumbersome. Invisible seams give a smooth surface for painting and enameling. And in strength the joint is 100 per cent efficient—as strong as the metal it joins.

BAFFLING CORROSION—resistance to the action of salt water can be effected with special alloy metals. Welding is used to give light weight joints in all commercial metals and alloys.

In Modern Automobiles

In automobiles, for instance, lightness has been attained by designing many motor and body parts for welding. The resulting light weight car has less tire wear, less gas consumption, fewer repairs. Its welded seams have smooth contours and streamlines, offering less wind resistance and providing an even surface for fine finishes.

On the Airways

Safe, speedy flying was next to impossible until the aircraft industry adopted the welded joint for airplane fuselage construction. With other means of joining it would hardly be possible to carry a profitable pay-load. Welded light alloy fuel tanks for aircraft are safer, lighter, stronger and more compact.

In the chemical and food industries, also, welding contributes to lighter weight. Light alloy piping and containers can be used—welded to give a smooth, even surface inside and out. Welding leaves no rough spots for corrosion or germs to attack.

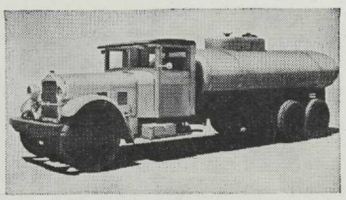
Saves Tons of Weight

A prominent example of weight saving is in the use of welded piping on the new treaty cruisers. Reduction in tonnage through the use of welded piping made it possible to mount an additional 8-in. gun and still conform to treaty weight limits.

These many cases drawn from actual experience show the advantages of building products from light weight metals and alloys by welding. Welded joints are most efficient and economical for modern metals and designs.

For The Future

Industrial executives interested in making their products lighter can obtain further data on the use of welding in their own operations through The Linde Air Products Company. This company, in addition to utilizing the facilities of Union Carbide and Carbon Research Laboratories, Inc., has had wide experience drawn from over 20 years in pioneering and developing oxy-acetylene applications. Advice and assistance to manufacturers on how best to use oxweld-ing and cutting for their needs is available without charge through sales offices of The Linde Air Products Company located in Atlanta, Baltimore, Birmingham, Boston, Buffalo, Butte, Chicago, Cleveland, Dallas, Denver, Detroit, El Paso, Houston, Indianapolis, Kansas City, Los Angeles, Memphis, Milwaukee, Minneapolis, New Orleans, New York, Philadelphia, Phoenix, Pittsburgh, Portland, Ore., St. Louis, Salt Lake City, San Francisco, Seattle, Spokane and Tulsa. Everything for oxy-acetylene welding and cutting—including Linde Oxygen, Prest-O-Lite Acetylene, Union Carbide and Oxweld Apparatus and Supplies—is available from Linde through 126 producing plants and 859 warehouse stocks.



BIGGER PAY-LOADS—are possible when welded aluminum truck bodies and chassis are used. By welding the body the useful load of a 10-ton truck is increased on the average 1500 lb.

*Chief Engineer, The Linde Air Products Company, Unit of Union Carbide and Carbon Corporation.

—This being a Business-News Advertisement.

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Contents

THIS MONTH

In "Unfamiliar Faces," Robert Radow introduces you to the new faculty men in the Engineering college.

Wilson R. Dumble is with us again, continuing his most interesting reviews of books and the theater in "The Engineers' Bookshelf."

The first of two groups of engineering organizations, their officers, activities, and meeting dates appear in this issue.

AND NEXT

Learn how the Civil Engineers spend their time in summer camp.

A campus news and humor column will be introduced in the November issue.

William Ellis will present an article on asphalt road building.

LEE E. KLEINMAIER, Editor
THOMAS SIMKINS, B. Mgr.

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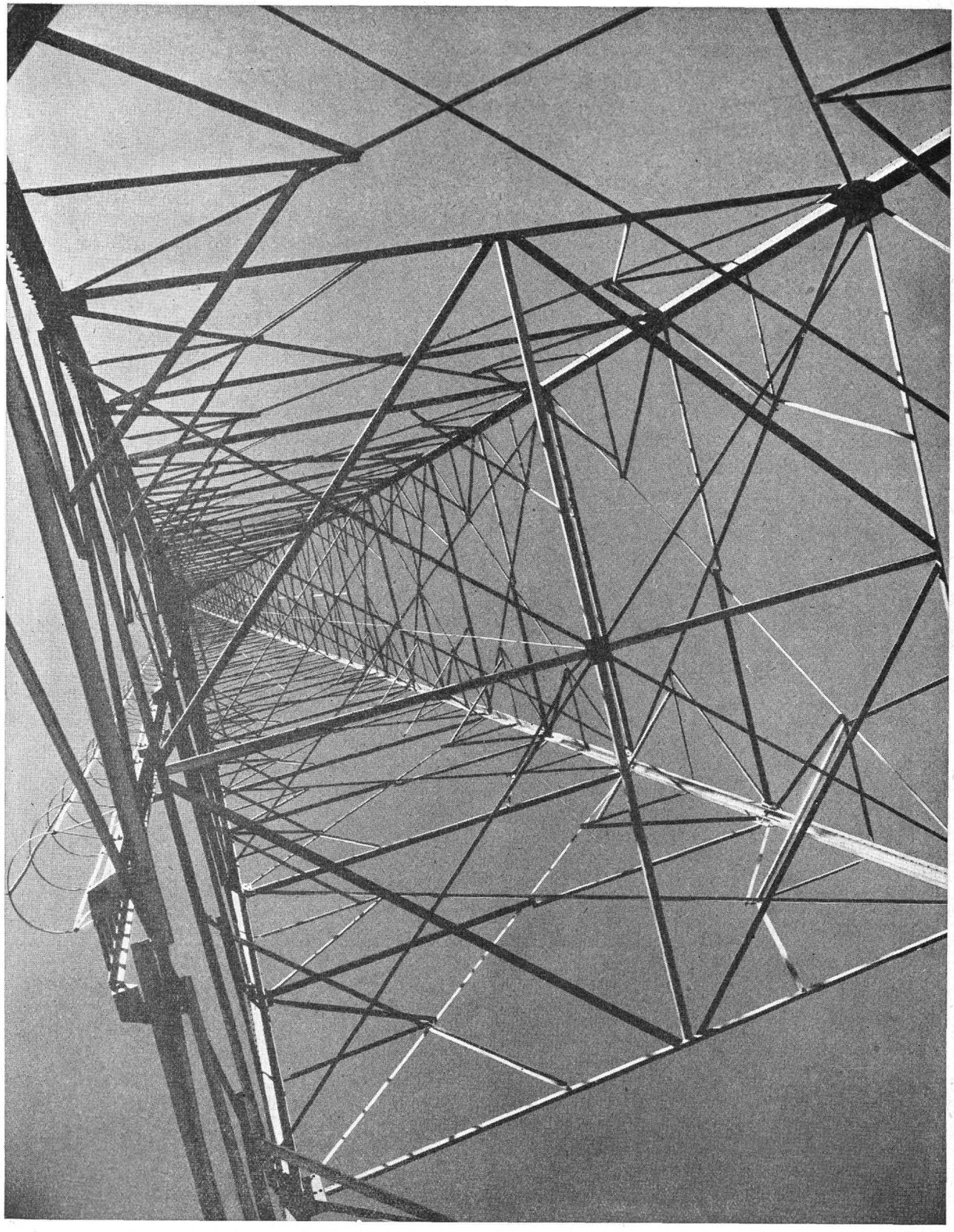

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